The Image Area

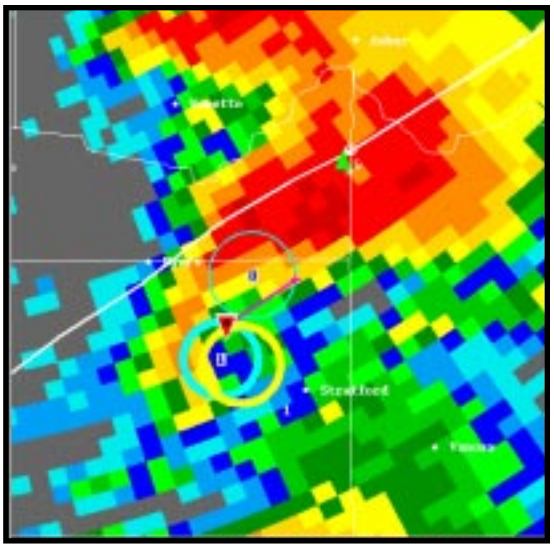


Figure 3.2: The Image Area

The **Image Area** of the Image Window(Figure 3.2) contains actual data image, and changes according to the type of image. Image windows displaying the current volume scan and sweep may be any or all of the following:

Radial Velocity
Storm Relative Velocity
Reflectivity
Composite Reflectivity
Spectrum Width
1-Hr, 3-Hr or Storm-Total Precipitation
VIL
Template

The type of image window is chosen from the RADS Control Panel. Options chosen from an image window's tool bar affect that image, including map overlays (cities, counties, highways, range rings, etc.), zoom factor, and algorithm product overlays.

Color Bar

The Color Bar section of the Image Window provides you with a color key for color-coded values on the image. The scale varies from image to image. "RF" stands for Range-Folded velocities in the velocity and spectrum width images. **Users may toggle selected colors off and on by clicking on the appropriate color block on the Color Bar.**

Image Information Area

The Image Information Area provides vital information about a particular image. This information is, from left to right:

05/11/92: **Date** of Image, shown here to be "05/11/92."

18:24:01: **Time** of Image in UTC, shown here to be "18:24:01."

KTLX: **Name of Radar**, shown here to be "KTLX."

Vol: **Volume Scan number** of the current image, shown here to be 136.

Swp: **Sweep Number** of the current image, shown here to be number 1. **Swp** is zero for composite reflectivity, precipitation, VIL, and template images since these images have only one image per volume scan.

VCP: **Volume Coverage Pattern** that data were collected in. Here the VCP is 21.

CtrAz: **Azimuth of the Central Point of the Image** from the radar, in degrees from North, clockwise. The value here is 151.5 degrees.

CtrRn: **Range of the Central Point of the Image** from the radar, in kilometers or nautical miles. Here the value is 32.0 nautical miles.

Mag: **Current Zoom Factor** (Magnification of Image). Choices are 1X, 2X, 4X, 8X, 16X, 32X, or 64X. Here it is 16x.

Val: **Value** of User-Selected (Current) Point on the Image. This is related to the Raw Data function, and the value here is 42.5.

Hgt: **Height of User-Selected Point** in kilometers or kilofeet. (See User Parms Units.) This is related to the Raw Data function, and the value here is 2.3 kilofeet.

El: **Elevation** of the current sweep in degrees, shown here to be 0.5 degrees.

SelAz: **Azimuth of a user-selected point on the screen** from the radar, measured in degrees from North, clockwise. This is related to the Raw Data function. Here it is shown to be 151.6 degrees.

SelRn: **Range of user-selected point** from the radar, measured in kilometers or nautical miles. This is related to the Raw Data function. Here the value is 32.0 nautical miles.

Nyqst: Nyquist velocity value used while data were collected, in meters per second or knots. Here the value is 50 knots.

Overlays Pop-Up Menu

Overlays are provided from output from meteorological algorithms. All are accessed through the Overlays button on the Image Toolbar.

To access the Overlays pop-up menu for an image, click on the Overlays button with the <left-mouse> button. An example Overlays pop-up menu is shown in Figure 3.3.

To activate a specific algorithm overlay, click once with the <left-mouse> button on the toggle button ■, or on the name of the overlay. The toggle button ■ will turn red once the overlay is activated.

If a specific algorithm overlay does not exist for a particular volume scan, the following informational pop-up menu will appear (Figure 3.4):

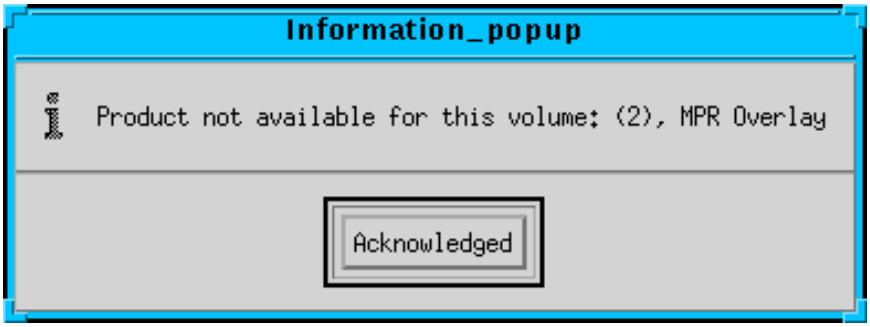


Figure 3.4: Information Pop-Up Example

You must click on the Acknowledged button with the <left-mouse> button before continuing. The algorithm output may not exist for a variety of reasons, but in most cases it is due to a lack of detection from that algorithm. Algorithm overlays are indicated by special graphics "overlaid" on the image.

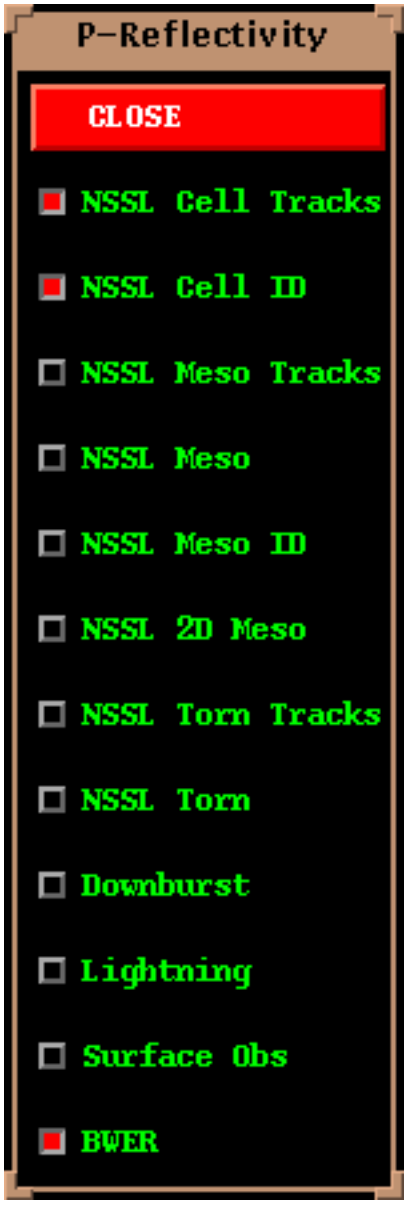


Figure 3.3: The Products Pop-Up Menu

The general categories of algorithm overlays are:

NSSL Algorithm Output Overlays: These include the mesocyclone, tornado, and storm cell algorithm overlay. The hail overlay is part of the storm cell overlay. All NSSL overlays are indicated in **green** lettering on the Overlay menu for easy identification.

For details concerning output associated with the NSSL algorithms, please consult Chapter 4. Each currently available algorithm overlay is discussed below.

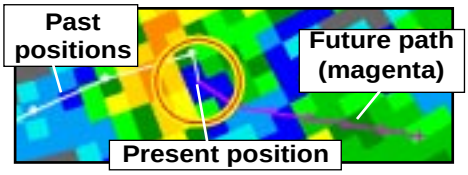
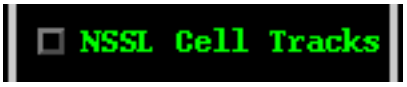
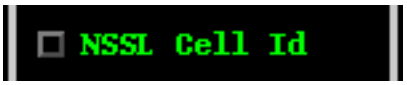


Figure 3.5: Example of tracks for NSSL algorithm products

NOTE: For NSSL Cell Tracks, NSSL Meso Tracks, and NSSL Tornado Tracks, the past tracks are shown as white lines, connecting past positions of the storm centroids (white dots) for each volume scan up to six previous volume scans. In some cases, there will be less than six past positions if the detection is new. The **forecasted position**s are magenta lines with "+" symbols at five-minute intervals, up to thirty minutes from the present. NSSL Cell Tracks, NSSL Torn Tracks and NSSL Meso Tracks are displayed identically.



The **NSSL Cell Tracks** overlay shows the past and calculated future path of a storm cell. **The strongest 20 cells within the image's domain are displayed as Cell IDs. As you zoom in or re-center, more cell IDs may appear, so that always the strongest (up to 20) cells are displayed.** Also, see above note about tracks.



The **NSSL Cell ID** overlay provides a numeric identification number for each storm cell. Use this information in conjunction with the **Cell** algorithm output table, which is accessed through the Control Panel. Storm cells are color coded based on the Probability of Severe Hail as shown in the Cell table (SVRH). Red is for 50-100% probability of severe hail, yellow is for 10-49%, while green indicates less than 10%. See Chapter 4 for more information on the NSSL Cell table.

The **NSSL Meso Tracks** overlay shows the past and calculated future path of a mesocyclone. See Figure 3.5 and above note about tracks.

The **NSSL Meso** overlay provides a graphical means of viewing the severity of a mesocyclone. (Figure 3.6)

- *Thin yellow circle:* Circulation.
- *Thick yellow circle:* Mesocyclone.
- *Thick yellow circle and thin red circle combined:* Mesocyclone with base detected at the lowest sweep.

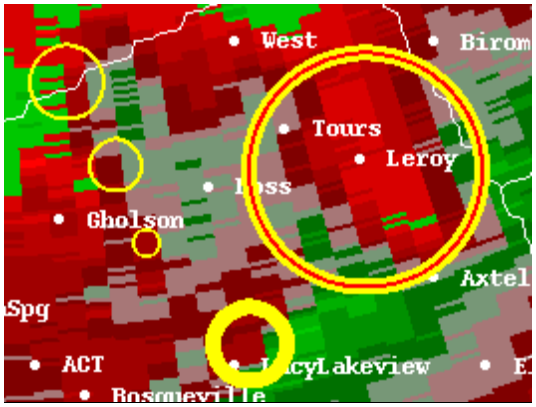


Figure 3.6: NSSL Meso Icons